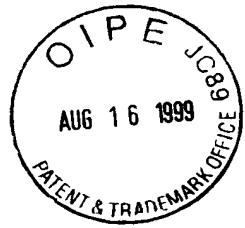


SEQUENCE LISTING



<110> Gray, Joe W
Collins, Collin
Hwang, Soo In
Godfrey, Tony
Kowal, David
Rommens, Johanna

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723

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<213> Artificial Sequence

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<213> Artificial Sequence

<220>
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<211> 10365
<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence:Genomic
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<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:ZABC1 Open
Reading Frame

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<211> 1061
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: ZABC1 Protein

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20 25 30

Glu Met Glu Asp Ala Leu Ser Met Lys Gly Thr Ala Val Val Pro Phe
35 40 45

Arg Ala Thr Gln Glu Lys Asn Val Ile Gln Ile Glu Gly Tyr Met Pro
50 55 60

Leu Asp Cys Met Phe Cys Ser Gln Thr Phe Thr His Ser Glu Asp Leu
65 70 75 80

Asn Lys His Val Leu Met Gln His Arg Pro Thr Leu Cys Glu Pro Ala
85 90 95

Val Leu Arg Val Glu Ala Glu Tyr Leu Ser Pro Leu Asp Lys Ser Gln
100 105 110

Val Arg Thr Glu Pro Pro Lys Glu Lys Asn Cys Lys Glu Asn Glu Phe
115 120 125

Ser Cys Glu Val Cys Gly Gln Thr Phe Arg Val Ala Phe Asp Val Glu

130

135

140

Ile His Met Arg Thr His Lys Asp Ser Phe Thr Tyr Gly Cys Asn Met
145 150 155 160

Cys Gly Arg Xaa Xaa Xaa Pro Trp Phe Leu Lys Asn His Met Arg
165 170 175

Thr His Asn Gly Lys Ser Gly Ala Arg Ser Lys Leu Gln Gln Gly Leu
180 185 190

Glu Ser Ser Pro Ala Thr Ile Asn Glu Val Val Gln Val His Ala Ala
195 200 205

Glu Ser Ile Ser Ser Pro Tyr Lys Ile Cys Met Val Cys Gly Phe Leu
210 215 220

Phe Pro Asn Lys Glu Ser Leu Ile Glu His Arg Lys Val His Thr Lys
225 230 235 240

Lys Thr Ala Phe Gly Thr Ser Ser Ala Gln Thr Asp Ser Pro Gln Gly
245 250 255

Gly Met Pro Ser Ser Arg Glu Asp Phe Leu Gln Leu Phe Asn Leu Arg
260 265 270

Pro Lys Ser His Pro Glu Thr Gly Lys Lys Pro Val Arg Cys Ile Pro
275 280 285

Gln Leu Asp Pro Phe Thr Thr Phe Gln Ala Trp Gln Leu Ala Thr Lys
290 295 300

Gly Lys Val Ala Ile Cys Gln Glu Val Lys Glu Ser Gly Gln Glu Gly
305 310 315 320

Ser Thr Asp Asn Asp Asp Ser Ser Glu Lys Glu Leu Gly Glu Thr
325 330 335

Asn Lys Gly Ser Cys Ala Gly Leu Ser Gln Glu Lys Glu Lys Cys Lys
340 345 350

His Ser His Gly Glu Ala Pro Ser Val Asp Ala Asp Pro Lys Leu Pro
355 360 365

Ser Ser Lys Glu Lys Pro Thr His Cys Ser Glu Cys Gly Lys Ala Phe
370 375 380

Arg Thr Tyr His Gln Leu Val Leu His Ser Arg Val His Lys Lys Asp

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Lys Pro Tyr Lys Cys Glu Phe Cys Glu Tyr Ala Ala Gln Lys Thr			
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Ser Leu Arg Tyr His Leu Glu Arg His His Lys Glu Lys Gln Thr Asp			
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Phe Asp Gly Ala Lys Asp Val Thr Gly Ser Pro Pro Ala Lys Gln Leu			
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Ser Pro Ala His Lys Asp Thr Gln Asp Phe His Lys Asn Ala Ala Asp			
595	600	605	
Asp Ser Ala Asp Lys Val Asn Lys Asn Pro Thr Pro Ala Tyr Leu Asp			
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Leu Leu Lys Lys Arg Ser Ala Val Glu Thr Gln Ala Asn Asn Leu Ile			
625	630	635	640
Cys Arg Thr Lys Ala Asp Val Thr Pro Pro Asp Gly Ser Thr Thr			

645

650

655

His Asn Leu Glu Val Ser Pro Lys Glu Lys Gln Thr Glu Thr Ala Ala
 660 665 670

Asp Cys Arg Tyr Arg Pro Ser Val Asp Cys His Glu Lys Pro Leu Asn
 675 680 685

Leu Ser Val Gly Ala Leu His Asn Cys Pro Ala Ile Ser Leu Ser Lys
 690 695 700

Ser Leu Ile Pro Ser Ile Thr Cys Pro Phe Cys Thr Phe Lys Thr Phe
 705 710 715 720

Tyr Pro Glu Val Leu Met Met His Gln Arg Leu Glu His Lys Tyr Asn
 725 730 735

Pro Asp Val His Lys Asn Cys Arg Asn Lys Ser Leu Leu Arg Ser Arg
 740 745 750

Arg Thr Gly Cys Pro Pro Ala Leu Leu Gly Lys Asp Val Pro Pro Leu
 755 760 765

Ser Ser Phe Cys Lys Pro Lys Pro Lys Ser Ala Phe Pro Ala Gln Ser
 770 775 780

Lys Ser Leu Pro Ser Ala Lys Gly Lys Gln Ser Pro Pro Gly Pro Gly
 785 790 795 800

Lys Ala Pro Leu Thr Ser Gly Ile Asp Ser Ser Thr Leu Ala Pro Ser
 805 810 815

Asn Leu Lys Ser His Arg Pro Gln Gln Asn Val Gly Val Gln Gly Ala
 820 825 830

Ala Thr Arg Gln Gln Ser Glu Met Phe Pro Lys Thr Ser Val Ser
 835 840 845

Pro Ala Pro Asp Lys Thr Lys Arg Pro Glu Thr Lys Leu Lys Pro Leu
 850 855 860

Pro Val Ala Pro Ser Gln Pro Thr Leu Gly Ser Ser Asn Ile Asn Gly
 865 870 875 880

Ser Ile Asp Tyr Pro Ala Lys Asn Asp Ser Pro Trp Ala Pro Pro Gly
 885 890 895

Arg Asp Tyr Phe Cys Asn Arg Ser Ala Ser Asn Thr Ala Ala Glu Phe

900

905

910

Gly Glu Pro Leu Pro Lys Arg Leu Lys Ser Ser Val Val Ala Leu Asp
915 920 925

Val Asp Gln Pro Gly Ala Asn Tyr Arg Arg Gly Tyr Asp Leu Pro Lys
930 935 940

Tyr His Met Val Arg Gly Ile Thr Ser Leu Leu Pro Gln Asp Cys Val
945 950 955 960

Tyr Pro Ser Gln Ala Leu Pro Pro Lys Pro Arg Phe Leu Ser Ser Ser
965 970 975

Glu Val Asp Ser Pro Asn Val Leu Thr Val Gln Lys Pro Tyr Gly Gly
980 985 990

Ser Gly Pro Leu Tyr Thr Cys Val Pro Ala Gly Ser Pro Ala Ser Ser
995 1000 1005

Ser Thr Leu Glu Gly Leu Gly Gly Cys Gln Cys Leu Leu Pro Met Lys
1010 1015 1020

Leu Asn Phe Thr Ser Ser Phe Glu Lys Arg Met Val Lys Ala Thr Glu
1025 1030 1035 1040

Ile Ser Cys Asp Cys Thr Val His Lys Thr Tyr Glu Glu Ser Ala Arg
1045 1050 1055

Asn Thr Thr Val Val
1060

<210> 12

<211> 3066

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:1b1

<400> 12

ggaaacagct atgaccatga ttacgccaag ctcgaaatta accctcacta aaggaaacaa 60
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gaattcggca cgaggctcca ccgacagcca ggcactggc agcacgcact ggagacccag 180
gaccctgtgc aggagcagct ccgggtgaca cgagggact gaagatactc ccacagggc 240
tcagcaggag caatggtaa ccaaatgagt gttcccaaaa gagttgaaga ccaagagaat 300
gaaccagaag cagagactta ccaggacaac gcgtctgctc tgaacgggtt tccagtggtg 360

gtgtcgaccc acacagttca gcacttagag gaagtcgact tggaaataag tgtcaagacg 420
gataatgtgg ccacttcttc cccc gagaca acggagataa gtgctgtgc ghatgccaac 480
ggaaagaatc ttggaaaga ggc当地 aaccggcc gaggcaccag ctgctaaatc tcgtttttc 540
ttgatgctct ctc当地 ctgt accaggacgt accggagacc aagccgcaga ttcatccctt 600
ggatcagtga agcttgatgt cagctccaaat aaagctccag cgaacaaaaga cccaaagttag 660
agctggacac ttccgggtggc agctggaccc gggcaggaca cagataaaac cccagggcac 720
gccccggccc aagacaaggt cctctctgcc gccaggatc ccacgcttcc cccacctgag 780
acagggggag caggaggaga agctccctcc aagcccaagg actccagtt ttttgcacaaa 840
ttcttcaagc tggacaaggg acaggaaaag gtgccaggtg acagccaaaca ggaagccaaag 900
agggcagagc atcaagacaa ggtggatgag gttcctggct tattcaggca gtccgatgat 960
gtccctgcag ggaaggacat agttgacggc aaggaaaaag aaggacaaga acttggaaact 1020
gcggattgct ctgtccctgg ggacccagaa ggactggaga ctgcaaaga cgattcccaag 1080
gcagcagcta tagcagagaa taataattcc atcatgagtt tctttaaaac tctgtttca 1140
cctaacaacaa ctgaaacaaa aaaggacccaa gaagacacgg gtgctgaaaa gtcacccacc 1200
acttcagctg accttaagtc agacaaagcc aactttacat cccaggagac ccaaggggct 1260
ggcaagaatt ccaaaggatg caacccatcg gggcacacac agtccgtgac aaccctgaa 1320
cctgcgaagg aaggcaccaa ggagaaatca ggacccaccc ctctgcctt gggcaaactg 1380
ttttggaaaa agtcagttaa agaggactca gtccccacag gtgcggagga gaatgtggtg 1440
tgtgagtcac cagtagagat tataaagtcc aaggaagtag aatcagcctt acaaacagtg 1500
gacctcaacg aaggagatgc tgcacctgaa cccacagaag cgaaactcaa aagagaagaa 1560
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gggatcaccct actcagaaga aataaatggg aaagactcca gtc当地aaac atcagactcc 1680
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gagggctcctt cgaaggacaa gaagtcagca gccgagatga acaagcagaa gagcaacaag 1800
caggaagcca aagaaccagc ccagtgcaca gagcaggcca cgggtggacac gaactcactg 1860
cagaatgggg acaagctcca aaagagacct gagaagcggc agcagtcctt tggggcttc 1920
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atcggaccag ttggcaaaacc caagtaaaca aatcagcact gttccacca ggttctcctt 2040
ccaccaagat gtgttctcct tactccatct cctccccaaa cacgctccat gtatatattc 2100
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gggttattat ttacgtctctt ggtccagttt tttctggcaa ataacagtaa agatggttt 2220
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gggagacgaa aatccattt ttttaattca catctcaagg agggagaacc cgggctgtgt 2760
tgggtgggtt ccaatttccat agaacggaaat gtgtgggtt tagaaaaagg aatgaataag 2820
cggttctttt caaatagggtt cctgttaagt tattgatgag agggaaaaaga ttgactgggg 2880
agggtttaaa atgatttggg aaaaacaattt ctttggggc tcagtgacaa cggcaaagat 2940
tacaacttaa aaaaaaaaaa aaaaaaaactc gagacttagtt ctctctctt ctcgtgccga 3000
attcgatatac aagcttatacg ataccgtcga cctcgagggg gggcccccgtt cccaaattcgc 3060
cctata

3066

<211> 939
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Genomic
Sequence from BAC Clone 97 Filtered Query Sequence

<400> 13

tgtgatattg attcatgcc tcttgcacct tgccaaacat cacacgctt ccatccagtc 60
cactcgattt tggcagtgc aatgaaaaac tggaaaccat ttgtgttgc tccagcaaga 120
tgccaggacc tgcattttc agaacgaagt tcttcattcat ccaatttctc cctgtatatg 180
ggcttaccac nactgccgtt aagtctgttn aagtaccac tcaggatcat aatgaaataa 240
ttctgcaaag gcaggagnca ctttctctcc agtgcataa ccatgaaagt tttctgtatgt 300
ctttggaaact ttgtctgcaa atagctcgaa ggagacatgg cctaaaggct cgccatctgc 360
ggtgatattg naacatggta gggctgaccg tggctgtggc catgacttt tagantnnnn 420
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 480
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnccaaat gcgggacaga gaatcnaaga 540
aactgtatta gggaaagggt cctgagttt tgcctaaagtt tcccagattt gtttccattt 600
aaacgttagt ctgtgagata ccatcagggt ttatgtgaag aaatgtctgt gtatcataat 660
atgtttgagt gagtgagcct gagctgagca agactttact gcaagacttc ccatcttctg 720
tccctttta tgctaatggg taacacaaac tccaaagtg ggggttacag catgaggcat 780
taacaaaaat ttattggacc ccacacacnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 840
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 900
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnctctc 939

<210> 14
<211> 112
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Subject Seq -
Rat Cyclophilin 64-175

<400> 14

ttcgacatca cggctgatgg cgagccctt ggtcgcttgc gtttcgagct gtttgcagac 60
aaagttccaa agacagcaga aaactttcgt gctctgagca ctggggagaa ag 112

<210> 15
<211> 106
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:e:Subject Seq -
Rat Cyclophilin404-348

<400> 15
tgctggacca aacacaaatg gttcccagt ttttatctgc actgccaaga ctgagtgggg 60
ctggatggca agcatgtggt ctttggaaag gtgaaagaag gcatga 106

<210> 16
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:e:Subject Seq -
Rat Cyclophilin 299-336

<400> 16
agaacttcat cctgaaggcat acaggtcctg gcatcttg 38

<210> 17
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:e:Subject Seq -
Rat Cyclophilin 193-220

<400> 17
tcctccttac acagaattat tccaggat 28

<210> 18
<211> 112
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Query Seq ID NO
13 261-372

<400> 18
tncaatatca ccgcagatgg cgagccttta ggccatgtct cttcgagct atttgcagac 60
aaagttccaa agacatcaga aaactttcat ggtctgagca ctggagagaa ag 112

<210> 19
<211> 106
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Query Seq ID NO

<400> 19
tgctggactc aacacaaatg gttcccagtt tttcatctgc actgccaaaa tcgagtggga 60
ctggatggca agcgtgtgat gtttggcaag gtgcaagagg gcatga 106

<210> 20
<211> 38
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Query Seq ID NO
13116-153

<400> 20
agaacttcgt tctgaaacat gcaggtcctg gcatcttg 38

<210> 21
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Query Seq ID NO
13 229-256

<400> 21
tcctgccttt gcagaattat tccattat 28

<210> 22
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Forward primer

<400> 22
ttggcattgg tatcaggttag ctg 23

<210> 23
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Backward

Primer

<400> 23
ttggagcaga gaggggattg ttgtg 24

<210> 24
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:: Forward primer

<400> 24
aatccctca aaccctgctg ctac 24

<210> 25
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Backward Primer

<400> 25
tggagcctga acttctgcaa tc 22

<210> 26
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:: Forward primer

<400> 26
ccgggataacc gacattg 17

<210> 27
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Backward

Primer

<400> 27
tgcacataaa acagccagc 19

<210> 28
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:: Forward primer

<400> 28
ttggaatcaa tggagcaaaa 20

<210> 29
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Backward primer

<400> 29
agctttaccc aatgtggtcc 20

<210> 30
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:: Forward primer

<400> 30
gtggtaaca ccaataaatg g 21

<210> 31
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Backward

Primer

<400> 31
aagcaaataa aaccaataaa ctcg 24

<210> 32
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:: Forward primer

<400> 32
caagatctga ccccgtaat c 21

<210> 33
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Backward Primer

<400> 33
gacttcttca ggaaagagat cagtg 25

<210> 34
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:: Forward primer

<400> 34
gccatgtacc cacctgaaaa atc 23

<210> 35
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Backward

Primer

<400> 35
tcagaacacc cgtgcagaat taag 24

<210> 36
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:: Forward
primer

<400> 36
cctaaaactt ggtgcttaaa tcta 24

<210> 37
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Backward
Primer

<400> 37
gtctcacaag gcagatgtgg 20

<210> 38
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:: Forward
primer

<400> 38
tttgttatg ttgagccatc 20

<210> 39
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Backward

Primer

<400> 39
cttccaatct cattctatga gg 22

<210> 40
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Forward Primer

<400> 40
gcttgtttaa gtgtcactag gg 22

<210> 41
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Backward
Primer

<400> 41
caactctggta aatgacccttt gtc 23

<210> 42
<211> 21 .
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:: Forward
primer

<400> 42
cctacacccat tccaaactttg g 21

<210> 43
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Backward
Primer

<400> 43
gccagatgtatgtttgctac ggaac 25

<210> 44
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:: Forward primer

<400> 44
tctcaaacct gtccacttct tg 22

<210> 45
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Backward Primer

<400> 45
ctgctgtggg ggagaatgg 19

<210> 46
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:: Forward primer

<400> 46
tgtcctcctt ctccctcatc ctac 24

<210> 47
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Backward Primer

<400> 47	
aatgcctcca ctcacaggaa tg	22
<210> 48	
<211> 23	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence:: Forward primer	
<400> 48	
cctcttcagt gtcttcctat tga	23
<210> 49	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: Backward Primer	
<400> 49	
gggaggaggt tgttaggcaac	20
<210> 50	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: Forward primer	
<400> 50	
agcaaagcaa aggtggcaca c	21
<210> 51	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Description of Artificial Sequence: Backward Primer	

<400> 51
tgacatggga gaagacacac ttcc

24

<210> 52
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Forward Primer

<400> 52
aggtttacca atgtgtttgg

20

<210> 53
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Backward
Primer

<400> 53
tctacatccc attctcttct g

21

<210> 54
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:: Forward
primer

<400> 54
gtggtaaca ccaataaaatg g

21

<210> 55
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Backward
Primer

<400> 55

aagcaaataa aaccaataaa ctcg

<210> 56
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Forward Primer

<400> 56
ttggaatcaa tggagcaaaa

20

<210> 57
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Backward
Primer

<400> 57
agctttaccc aatgtggtcc

20

A
cont
<210> 58
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Forward Primer

<400> 58
gccatgtacc cacctgaaaa atc

23

<210> 59
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Backward
Primer

<400> 59
tcagaacacc cgtgcagaat taag

24